Certification Summary Information Report

Tesla, Inc. **TSL** Manufacturer **Manufacturer Code Test Group** HTSLV00.0L2X **Evaporative/Refueling Family Certificate Number** HTSLV00.0L2X-002-R01 **CARB Executive Order #**

Certificate Issue Date 12/20/2016 **Certificate Revision Date** 03/10/2017

Certificate Effective Date 12/20/2016 **Conditional Certificate** No

CSI Revision # **CSI Submission/Revision Date** 03/07/2017 09:47:09 PM

Model Year 2017

Test Group Information

GHG Exempt Status

CSI Type Running Change **Running Change Reference Number** 01

Not Exempt

Drive Sources and Fuel(s)

Drive Source #1: Electric Motor

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Electricity		

Hybrid Indicator No **Multiple Fuel Storage Rechargeable Energy Storage System Indicator** Yes **Multiple Fuel Combustion Off-board Charge Capable Indicator** No **Fuel Cell Indicator EPA Vehicle Class** LDV No Federal Clean Fuel Vehicle Federal Clean Fuel Vehicle Standard **ZEV** Yes Federal Clean Fuel Vehicle ILEV California Partial Zero Emissions Vehicle Indicator Yes **Durability Group Name** HTSLEEVNNL2X **Durability Group Equivalency Factor** FA **Reduced Fee Test Group** No **Certification Region Code(s)** Complies with HD GHG 2b/3 regulations? No **Introduction into Commerce Date** 12/15/2016 **CAP2000 Conditional Certificate?** No **Independent Commercial Importer?** No **Alternative Fuel Converter Certificate?** No **SFTP Federal Composite Compliance Identifier** Not Applicable **SFTP Tier 2 Composite CO Option** SFTP LEV-III Composite Compliance **Indicator** No CARB **OBD** Compliance Type **OBD Demonstration Vehicle Test Group** HTSLV00.0L2X **Test Group OBD Compliance Level** 0 Full - no deficiencies **Number of Test Group OBD Deficiencies OBD Deficiencies Comments** Dual Motor Battery Electric Vehicle - No OBD requirements **Mfr Test Group Comments** Mfr Exhaust / Evap Standards Comments

Electricity

Certification Summary Information Report

Test Group		HTSLV00.0L2X		Evaporative/Refuel	ing Family				
Models Covered by	this Certificate								
Carline Manufacturer	Division	Carline	Certification I Code(s)	Region Drive System	Trans - '	Гуре	- # of Gears	s Tran	s - Lockup
Tesla, Inc.	1 - Tesla Motors	75 - Model X P1	00D Federal	All Wheel Drive	Autom	atic	1		No
Tesla, Inc.	1 - Tesla Motors	72 - Model X 7	5D Federal	All Wheel Drive	Automa	atic	1		No
Tesla, Inc.	1 - Tesla Motors	74 - Model X P	OD Federal	All Wheel Drive	Automa	atic	1		No
Tesla, Inc.	1 - Tesla Motors	73 - Model X 9	0D Federal	All Wheel Drive	Autom	atic	1		No
Tesla, Inc.	1 - Tesla Motors	71 - Model X 6	0D Federal	All Wheel Drive	Autom	atic	1		No
Tesla, Inc.	1 - Tesla Motors	76 - Model X 10	00D Federal	All Wheel Drive	Autom	atic	1		No
Engine Description									
Hybrid Type				Hybrid Description					
Engine Type				Mfr Engine Descrip					
Engine Type Engine Block Arrangem	nent			Mfr Engine Block		rintion			
Camless Valvetrain Indi				Oil Viscosity/Classi	_	Tiption			
Number of Cylinders/Ro				Mechanically Varia		Ratio Indicate	or		
				wicenameany varie	iore compression	Ratio Indicate	,1		
After Treatment De	`								
Mfr After Treatment D Comments	evice (ATD)								
Direct Ozone Reduction	n (DOR) Device								
Mfr Emission Control I	Device Comments								
Official Test Numbe	ers								
Test Group Fuel	FTP	US06	SC03 Col	d CO Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Electricity									
Official Charge Dep	oleting Test Num	bers							
Test Gro			UDDS		Highway				
Electr			TSL10043912						
Electi			TSL10038392	38392 GTSL10038393					
Electr	ricity	G	TSL10045364	GTSL10045365					
Electi			TSL10038391		GTSL10038390				
Electr	ricity	G	TSL10041067		GTSL10041068				

HTSL10046933

HTSL10046932

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family					
Hybrid Electric Vehicle And Fuel Cel	Hybrid Electric Vehicle And Fuel Cell Information						
Rechargable Energy Storage System	Battery(s)	Rechargable Energy Storage System, if Other					
Battery Type	Lithium Ion	Number of Battery Packs	1				
Total Voltage of Battery Packs	350	Battery Energy Capacity	250				
Battery Specific Energy	150	Battery Charger Type	On-Board				
Number of Capacitors		Capacitor Rating (In Farads)					
Mfr Capacitor Comments							
Hydraulic System Description							
Regenerative Braking Type	Electrical Regen Brake						
Regenerative Braking Source	Both	Driver Controlled Regenerative Braking	No				
Mfr Regenerative Braking Description							
Drive Motor(s)/Generator(s)	2						
Motor/Generator Type 1	AC Induction	Rated Motor/Generator Power	193				
Motor/Generator Type 2	AC Induction	Rated Motor/Generator Power	375				
Mfr Fuel Cell Description							
Fuel Cell On-Board H2 Storage Capacity (kg)		Usable H2 Fill Capacity (kg)					
Mfr Hybrid Electric/ Electric Vehicle Comments	Three battery sizes (75kwh, 90kWh and 100kWh) is available for 2017MY Model X AWD vehicles.						

Date: 05/10/2017 01:51:00 PM		CCI	inication Su	iiiiiai y iiii0i iii	ation Report	
Test Group	HTSLV0	0.0L2X		Evaporative/Re	fueling Family	
Emission Data Vehicle Informa	ation					
Vehicle ID / Configuration	XB116-L	2X / 0		Manufacturer \	Vehicle Configura	ation Number 0
Original Test Group Name	GTSLV0				rative/Refueling I	
Original Test Vehicle Model Year	2016					•
Vehicle Model						
Represented Test Vehicle Make	Tesla Mo	del X		Represented To	est Vehicle Model	60D
Leak Family Details						
Leak Family Identifier				Leak Family Na	ame	
Drive Sources and Fuel Systen	n Details					
Drive	Source and Fuel#		Driv	e Source		Fuel
	1			ric Motor		Electricity
	2		Elect	ric Motor		Electricity
Hybrid Indicator	No					
Multiple Fuel Storage				Multiple Fuel (Combustion	
Fuel Cell Indicator	No			-	Energy Storage Sys	
Rechargeable Energy Storage System)		_	Energy Storage Sys	
Off-board charge Capable Indicator	Yes	,		Rechargeable 1	mergy brorage by	stem, ii Other
Odometer Correction Initial	1			Odometer Cori	ection Factor	1
Odometer Correction Sign	- = System	m Miles is equal to (T	'est odometer rea			on factor
Odometer Correction Units	Miles	in wines is equal to (1	est odometer rea	ang maar system	i inics) Correction	on ractor
Engine Code	L2X			Rated Horsepo	wer	417
Displacement (liters)	0.001			ratea Horsepo	,,,,,,	11,
Air Aspiration Method		Aspirated		Air Aspiration	Method, if 'Other	,
Number of Air Aspiration Devices		110711111111		-	Device Configurat	
Charge Air Cooler Type				Drive Mode Wi	_	4-Wheel Drive
Shift Indicator Light Usage	Not eqip	ped		Aged Emission	_	4,000 (mi)
Curb Weight (lbs)	5223				t Weight (pounds)	
GVWR (lbs)	6580			N/V Ratio	(Pom.us)	9.7
Axle Ratio	9.34					***
Fransmission Type	Direct Dr	rive		# of Transmissi	on Gears	1
Γransmission Lockup	No			Creeper Gear		No
Dynamometer Coefficients:						
	Target Coefficien	ts		Set Coefficients		
Coefficient Category A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power fo City/Highway/Evap Coefficients
City/Highway/Evap 37.68	0.0486	0.0214	-5.15	-0.1318	0.0204	12.5

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family		
Emission Control Device Comments Manufacturer Test Vehicle Comments	No emissions control Device - Pure Electric Vehicle This is a Dual Motor Base configuration vehicle with 75kWh battery pack that is firmware limited to represent a 60kWh Battery is 193KW Front / 193 kW Rear Axle Ratio Front Motor 9.34 Rear Motor 9.73			

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10043912	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	07/14/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	600	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	72.62
Charge Depleting Range (Calculated miles)	267.75	Charge Depleting Range (Actual miles)	267.75
Equivalent All Electric Range (miles)	267.75		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Rag/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	267.75
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	23.17
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments MY2016 Model X 60D - UDDS

Certification Summary Information Report Date: 03/10/2017 01:31:06 PM

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10043913	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	07/15/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	600	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	72.65
Charge Depleting Range (Calculated miles)	276.87	Charge Depleting Range (Actual miles)	276.87
Equivalent All Electric Range (miles)	276.87		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	276.87
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	22.61
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments MY2016 Model X 60D - HWFET

oute. 03/10/2017 01.31.00 1 W		meation Summary Information	a report
Test Group	HTSLV00.0L2X	Evaporative/Refueling	g Family
Emission Data Vehicle Informa	tion		
Vehicle ID / Configuration	XB216-L2X / 0	Manufacturer Vehick	e Configuration Number 0
Original Test Group Name	GTSLV00.0L2X	Original Evaporative	_
Original Test Vehicle Model Year	2016	Original Evaporative	Actucing Fanniy
Vehicle Model	2010		
	m 1 M 11 W	D (177.1	
Represented Test Vehicle Make	Tesla Model X	Represented Test Veh	nicle Model 75D
Leak Family Details			
Leak Family Identifier		Leak Family Name	
Drive Sources and Fuel System	Details		
Drive	Source and Fuel#	Drive Source	Fuel
	1	Electric Motor	Electricity
	2	Electric Motor	Electricity
Hybrid Indicator	No		
Multiple Fuel Storage		Multiple Fuel Combu	ustion
Fuel Cell Indicator	No	-	Storage System Indicator Yes
Rechargeable Energy Storage System	Battery(s)	9	Storage System, if 'Other'
Off-board charge Capable Indicator	Yes	Rechargeable Energy	Storage System, ir Other
Odometer Correction Initial	1	Odometer Correction	Factor 1
Odometer Correction Sign	- System Miles is equal to (Tes	st odometer reading - Initial system miles	
Odometer Correction Units	Miles	odometer reading - mittar system miles	concetion factor
Engine Code	L2X	Rated Horsepower	417
Displacement (liters)	0.001	Kateu Horsepower	417
Air Aspiration Method	Naturally Aspirated	Air Aspiration Metho	od if 'Othor'
Number of Air Aspiration Devices		Air Aspiration Device	
-		Drive Mode While Te	_
Charge Air Cooler Type Shift Indicator Light Usage	Not aginned		_
Sunt indicator Light Osage Curb Weight (lbs)	Not eqipped 5223	Aged Emission Comp Equivalent Test Weig	
GVWR (lbs)	6580	N/V Ratio	9.7
Axle Ratio	9.34	IV V Kauo	7.1
Axie Kauo Transmission Type	9.54 Direct Drive	# of Transmission Ge	ars 1
Transmission Type Transmission Lockup	No	Creeper Gear	No
-	110	Creeper Gear	140
Dynamometer Coefficients:	TD	G . C	
	Target Coefficients	Set Coefficients	
Coefficient Category A (lbf)	B (lbf/mph) C (lbf/mph**2)	A (lbf) B (lbf/mph) C (lb	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap 37.68	0.0486 0.0214	-11.49 -0.0893	0.0206

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family
Emission Control Device Comments Manufacturer Test Vehicle Comments	No emissions control Device - This is a Dual Motor Base con 9.34 Rear Motor 9.73	Pure Electric Vehicle figuration vehicle with 75kWh Battery Pack Individual HP is 193KW Front / 375 kW Rear Axle Ratio Front Motor

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10041067	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	03/19/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	600	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta		Ç	
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	86.41
Charge Depleting Range (Calculated miles)	318.43	Charge Depleting Range (Actual miles)	318.43
Equivalent All Electric Range (miles)	318.43		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Pag/Dhage			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	318.43
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	23.26
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments MY2016 Model X 75D - UDDS

Certification Summary Information Report Date: 03/10/2017 01:31:06 PM

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10041068	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	03/19/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	600	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	85.54
Charge Depleting Range (Calculated miles)	330	Charge Depleting Range (Actual miles)	330
Equivalent All Electric Range (miles)	330		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	330
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	22.31
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments MY2016 Model X 75D - HWFET

Test Group	HTSLV00.	OL2X		Evaporative/R	efueling Family		
Emission Data Vehicle Informa	ition						
Vehicle ID / Configuration	XB316-L2	X / 0		Manufacturer	Vehicle Configurat	ion Number	0
Original Test Group Name	GTSLV00.				orative/Refueling F		
Original Test Vehicle Model Year	2016	0221		Original Lyap	oraci, c, iteracing i	 ,	
Vehicle Model	2010						
Represented Test Vehicle Make	Tesla Mode	al V		Represented T	est Vehicle Model		90D
Leak Family Details	resia iviodi	лх		Represented 1	est vemere wioder		70 D
·							
Leak Family Identifier				Leak Family N	ame		
Drive Sources and Fuel System	Details						
Drive	Source and Fuel#		Dri	ve Source		Fuel	
	I		Elec	tric Motor		Electricity	7
	2		Elec	tric Motor		Electricity	7
Hybrid Indicator	No						
Multiple Fuel Storage				Multiple Fuel	Combustion		
Fuel Cell Indicator	No			-	Energy Storage Sys	tem Indicator	Yes
Rechargeable Energy Storage System	Battery(s)			_	Energy Storage Sys		
Off-board charge Capable Indicator	Yes			Rechargeable	Energy Storage Sys	icm, ii Other	
Odometer Correction Initial	2666.9			Odometer Cor	raction Factor		1
Odometer Correction Sign		Miles is equal to (7)	Fast adamatar ray		n miles) * Correctio	n factor	1
Odometer Correction Units	- – System Miles	willes is equal to (1	est odometer rea	iding - midai system	ii iiiies) · Correctio	ii ractor	
Engine Code	L2X			Rated Horsepo	ATTON		417
=	0.001			Kateu Horsepo	ower		417
Displacement (liters)		aminata d		Aim Asminsticm	Mothed if Other		
Air Aspiration Method	Naturally A	ispirated		=	Method, if 'Other'	ion	
Number of Air Aspiration Devices				=	Device Configuration	1011	4 Wheel Drive
Charge Air Cooler Type	N-4:	a		Drive Mode W	_		4-Wheel Drive
Shift Indicator Light Usage	Not eqippe	J		Aged Emission			4,000 (mi)
CVIVD (bs)	5331			=	st Weight (pounds)		5500
GVWR (lbs)	6662 9.34			N/V Ratio			9.7
Axle Ratio				# of T	ion Coons		1
Transmission Type	Direct Driv	е		# of Transmiss	ion Gears		1 N-
Transmission Lockup	No			Creeper Gear			No
Dynamometer Coefficients:							
	Target Coefficients			Set Coefficients			
Coefficient Category A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		Total Road Load Horse Power ighway/Evap Coefficients
City/Highway/Evap 37.68	0.0486	0.0214	-8.894	-0.1713	0.0207	•	12.5

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family
Emission Control Device Comments Manufacturer Test Vehicle Comments	No emissions control Device - This is a Dual Motor Base con Front Motor 9.34 Rear Motor 9	Pure Electric Vehicle figuration vehicle Rated HP - 417 combined front/rear motor Individual HP is 259HP Front / 259 HP Rear Axle Ratio 9.73

Certification Summary Information Report

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10038390	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	08/20/2015	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method	-		
Test Start Odometer Reading	3018	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	93.84
Charge Depleting Range (Calculated miles)	358	Charge Depleting Range (Actual miles)	358
Equivalent All Electric Range (miles)	358	-	
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	358
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	23.3
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments

Certification Summary Information Report

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10038391	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	08/19/2015	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	2669	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	94.239
Charge Depleting Range (Calculated miles)	343.92	Charge Depleting Range (Actual miles)	343.92
Equivalent All Electric Range (miles)	343.92		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	343.92
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	24.12
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments

Date: 03/10/2017 01:31:00 PW	Cel	tineation Summary Information	on Keport	
Test Group	HTSLV00.0L2X	Evaporative/Refuel	ling Family	
Emission Data Vehicle Informat	ion			
Vehicle ID / Configuration	XB417-026625 / 0	Manufacturer Vehicle Configuration Number		on Number 0
Original Test Group Name	HTSLV00.0L2X	Original Evaporati		
Original Test Vehicle Model Year	2017	9	J	·
Vehicle Model				
Represented Test Vehicle Make	Tesla Model X	Represented Test V	ehicle Model	100D
Leak Family Details				
Leak Family Identifier		Leak Family Name		
Drive Sources and Fuel System I	Details			
Drive S	ource and Fuel#	Drive Source		Fuel
	1	Electric Motor		Electricity
	2	Electric Motor		Electricity
Hybrid Indicator	No			
Multiple Fuel Storage		Multiple Fuel Com	bustion	
Fuel Cell Indicator	No	Rechargeable Ener	gy Storage Syste	em Indicator Yes
Rechargeable Energy Storage System	Battery(s)	Rechargeable Ener	gy Storage Syste	em, if 'Other'
Off-board charge Capable Indicator	Yes			
Odometer Correction Initial	2813	Odometer Correcti	on Factor	1
Odometer Correction Sign	- = System Miles is equal to (T	est odometer reading - Initial system mi	les) * Correction	factor
Odometer Correction Units	Miles			
Engine Code	L2X	Rated Horsepower		517
Displacement (liters)	0.001			
Air Aspiration Method	Naturally Aspirated	Air Aspiration Met	hod, if 'Other'	
Number of Air Aspiration Devices		Air Aspiration Dev	ice Configuratio	on
Charge Air Cooler Type		Drive Mode While	_	4-Wheel Drive
Shift Indicator Light Usage	Not eqipped	Aged Emission Cor	nponents	4,000 (mi)
Curb Weight (lbs)	5450	Equivalent Test W	eight (pounds)	6000
GVWR (lbs)	6774	N/V Ratio		9.7
Axle Ratio	9.34			
Transmission Type	Direct Drive	# of Transmission (Gears	1
Transmission Lockup	No	Creeper Gear		No
Dynamometer Coefficients:				
Т	Carget Coefficients	Set Coefficients		
Coefficient Category A (lbf)	B (lbf/mph) C (lbf/mph**2)	A (lbf) B (lbf/mph) C	(lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
City/Highway/Evap 35.49	0.1972 0.02044	-10.47 -0.0735	0.02124	12.9

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family
Emission Control Device Comments Manufacturer Test Vehicle Comments	No emissions control Device - This is a Dual Motor Base con Front Motor 9.34 Rear Motor 9	Pure Electric Vehicle figuration vehicle Rated HP - 517 combined front/rear motor Individual HP is 259HP Front / 259 HP Rear Axle Ratio 9.73

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	HTSL10046932	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	02/24/2017	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	2813	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	116.083
Charge Depleting Range (Calculated miles)	403.98	Charge Depleting Range (Actual miles)	403.98
Equivalent All Electric Range (miles)	403.98		
Number of Charge Depleting Bags/Phases Conducted	1		
Cl D l - 4' D /Dl			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	403.98
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	117.3
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Internal test result for MY2017 100D . Range determined by using SAE J1634 Multi-cycle test procedure

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	HTSL10046933	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	02/24/2017	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	2813	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	116.083
Charge Depleting Range (Calculated miles)	415.35	Charge Depleting Range (Actual miles)	415.35
Equivalent All Electric Range (miles)	415.35		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Denleting Rag/Phase			

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	415.35
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	120.6
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments Internal test result for MY2017 100D . Range determined by using SAE J1634 Multi-cycle test procedure

				<u> </u>				
Test Group	HTSLV00	0.0L2X		Evaporative/Re	fueling Family			
Emission Data Vehicle Info	rmation							
Vehicle ID / Configuration	XP316-L	2X / 0	Manufacturer Vehicle Configuration Number				0	
Original Test Group Name	GTSLV0			Original Evaporative/Refueling Family				
Original Test Vehicle Model Year		0.0227		Original Evapo	run ver keruening	1 uning		
Vehicle Model	2010							
	T1- M-	J.1 V		Dommonouto d'To	a4 Wahiala Madal		DOOD	
Represented Test Vehicle Make	Tesla Mo	del X		Represented 16	est Vehicle Model		P90D	
Leak Family Details								
Leak Family Identifier				Leak Family N	ame			
Drive Sources and Fuel Sys	tem Details							
Γ	Prive Source and Fuel#		Driv	ve Source		Fuel		
	1		Elect	tric Motor		Electricity	<u> </u>	
	2		Elect	tric Motor		Electricity	ý	
Hybrid Indicator	No							
Multiple Fuel Storage				Multiple Fuel (ombustion			
Fuel Cell Indicator	No			-		vetom Indicator	Yes	
Rechargeable Energy Storage Sys		\		Rechargeable Energy Storage System Indicator Rechargeable Energy Storage System, if 'Other'				
Off-board charge Capable Indica)		Kechai geable i	mergy Storage Sy	ystem, ir Other		
Odometer Correction Initial	1			Odomoton Com	eastion Faston		1	
	I C4	M:1 :14- /	T4 - 14	Odometer Correction Factor 1 Fest odometer reading - Initial system miles) * Correction factor				
Odometer Correction Sign	-	n Miles is equal to (Test odometer rea	ding - Initial systen	n miles) * Correcti	ion factor		
Odometer Correction Units	Miles			D 4 117			710	
Engine Code	L2X			Rated Horsepo	wer		713	
Displacement (liters)	0.001							
Air Aspiration Method		Aspirated		-	Method, if 'Other			
Number of Air Aspiration Device	s			-	Device Configura	ation		
Charge Air Cooler Type				Drive Mode W	_		4-Wheel Drive	
Shift Indicator Light Usage	Not eqipp	ed		Aged Emission			4,000 (mi)	
Curb Weight (lbs)	5441			Equivalent Tes	t Weight (pounds	s)	5500	
GVWR (lbs)	6773			N/V Ratio			9.7	
Axle Ratio	9.34							
Transmission Type	Direct Dr	ive		# of Transmissi	on Gears		1	
Transmission Lockup	No			Creeper Gear			No	
Dynamometer Coefficients	:							
	Target Coefficient	ts		Set Coefficients				
Coefficient Category A (lbf)	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)		Total Road Load Horse Powe ighway/Evap Coefficients	er for
City/Highway/Evap 38.908	0.1197	0.02	-16.679	0.0232	0.0019		12.7	

Test Group	HTSLV00.0L2X Evaporative/Refueling Family
Emission Control Device Comments Manufacturer Test Vehicle Comments	No emissions control Device - Pure Electric Vehicle This is a Dual Motor Base configuration vehicle Rated HP - 713 Combined front/rear motor Individual HP is 259HP Front / 503 Rear Axle Ratio
vianuacturer Test vemere comments	This is a Dual Motor Base configuration vehicle Rated HP - 713 Combined front/rear motor Individual HP is 259HP Front / 503 Rear Axle Ratio Front Motor 9.34 Rear Motor 9.73

Certification Summary Information Report

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10038392	Test Procedure	81 - Charge Depleting UDDS
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	08/21/2015	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	2867	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	94.09
Charge Depleting Range (Calculated miles)	336.86	Charge Depleting Range (Actual miles)	336.86
Equivalent All Electric Range (miles)	336.86		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Rag/Phase	-		

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	336.86
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	24.54
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments

Certification Summary Information Report

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10038393	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	08/21/2015	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	1517	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	94.729
Charge Depleting Range (Calculated miles)	344.24	Charge Depleting Range (Actual miles)	344.24
Equivalent All Electric Range (miles)	344.24		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	344.24
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	24.49
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments

Test Group	HTSLV00	.0L2X		Evaporative/R	efueling Family	
Emission Data Vehicle Informatio	on					
Vehicle ID / Configuration	XP416-L2	2X / 0		Manufacturer Vehicle Configuration Number		ion Number 0
Original Test Group Name	GTSLV00	0.0L2X		Original Evap	orative/Refueling Fa	amily
Original Test Vehicle Model Year	2016					
Vehicle Model						
Represented Test Vehicle Make	Tesla Mod	lel X		Represented T	est Vehicle Model	P100D
Leak Family Details						
Leak Family Identifier				Leak Family N	ame	
Drive Sources and Fuel System D	etails					
Drive So	urce and Fuel#		Dri	ve Source		Fuel
Ziive so	1			etric Motor		Electricity
		1			1	
Hybrid Indicator	No					
Multiple Fuel Storage				Multiple Fuel	Combustion	
Tuel Cell Indicator	No			Rechargeable 1	Energy Storage Syst	tem Indicator Yes
Rechargeable Energy Storage System	Battery(s)			Rechargeable 1	Energy Storage Syst	tem, if 'Other'
Off-board charge Capable Indicator	Yes					
Odometer Correction Initial	1		Odometer Correction Factor		1	
Odometer Correction Sign	- = System	n Miles is equal to (7	Γest odometer re	ading - Initial system	m miles) * Correction	n factor
Odometer Correction Units	Miles					
Engine Code	L2X			Rated Horsepo	wer	713
Displacement (liters)	0.001					
Air Aspiration Method	Naturally	Aspirated		Air Aspiration	Method, if 'Other'	
Number of Air Aspiration Devices				Air Aspiration	Device Configurati	ion
Charge Air Cooler Type				Drive Mode W	hile Testing	4-Wheel Drive
Shift Indicator Light Usage	Not eqippe	ed		Aged Emission	Components	4,000 (mi)
Curb Weight (lbs)	5481			Equivalent Tes	t Weight (pounds)	6000
GVWR (lbs)	6786			N/V Ratio		9.7
Axle Ratio	9.34					
Transmission Type	Direct Dri	ve		# of Transmiss	ion Gears	1
Fransmission Lockup	No			Creeper Gear		No
Dynamometer Coefficients:						
Та	rget Coefficient	s		Set Coefficients		
Coefficient	B (lbf/mph)	C (lbf/mph**2)	A (lbf)	B (lbf/mph)	C (lbf/mph**2)	EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients
Category A (lbf)						

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family
Manufacturer Test Vehicle Comments	This is a Dual Motor Performance 9.34 Rear Motor 9.73	configuration vehicle with a 100kWh battery pack Rated HP 194kW Front , 375 kW Rear Axle Ratio Front Motor

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10045364	Test Procedure	81 - Charge Depleting UDDS
	G15L10045504		e . e
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	08/18/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	1000	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	114.54
Charge Depleting Range (Calculated miles)	382.3	Charge Depleting Range (Actual miles)	382.3
Equivalent All Electric Range (miles)	382.3		
Number of Charge Depleting Bags/Phases Conducted	1		

Charge Depleting Bag/Phase

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	382.3
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	25.99
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours 0	
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments MY 2016 P100D - Retest #2 as agreed upon with EPA

Certification Summary Information Report Date: 03/10/2017 01:31:06 PM

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Test #	GTSL10045365	Test Procedure	84 - Charge Depleting Highway
Exhaust Test # for this Evap Test		Test Fuel Type	62 - Electricity
Test Date	10/21/2016	Fuel	N/A
Fuel Batch ID		Fuel Calibration Number	
Vehicle Class	N/A	DF Type	EPA Assigned
Verify Test Lab ID	Fremont Dyno		
E10 Evaporative Test Measurement Method			
Test Start Odometer Reading	1200	Odometer Units	M
4WD Test Dyno	Yes	Diesel Adjustment Factor Usage	
State of Charge Delta			
Drive Cycle Speed Tolerance Criteria	Used Part 86 (+/- 2 mph, +/- 1 sec)	Road Speed Fan Usage	Yes
PHEV/EV TEST INFO			
Recharge Event Voltage	208	Recharge Event Energy (kiloWatt-hours)	114.26
Charge Depleting Range (Calculated miles)	410.02	Charge Depleting Range (Actual miles)	410.02
Equivalent All Electric Range (miles)	410.02		
Number of Charge Depleting Bags/Phases Conducted	1		
Charge Depleting Bag/Phase			

Charge Depleting Bag/Phase #	Test Result/Emission Name	Unrounded Test Result
1	Actual Distance Driven (miles)	410.02
2	Average System Voltage	350
3	Carbon Monoxide	0
4	Carbon dioxide	0
5	Carbon-Related Exhaust Emissions	0
6	Drive Trace Absolute Speed Change Rating	0
7	Drive Trace Energy Economy Rating	0
8	Drive Trace Inertia Work Ratio Rating	0
9	Integrated Amp-hours	0
10	Manufacturer Fuel Economy	24.34
11	Nitrogen Oxide	0
12	Particulate Matter	0
13	System End State of Charge Watt-hours	0
14	System Start State of Charge Watt-hours	0

Manufacturer Test Comments MY 2016 P100D HWFET Retest# 2 as agreed upon with EPA

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family	
Fuel Properties			

Date: 03/10/2017 01:31:06 PM

Test Group	HTS	LV00.0L2X		Evaporative/Refueling Family					
			Consolida	ted List of Sta	ndards				
Exhaust Standards									
Cert Region	Fed	eral		Cert/In-U	Jse Code		Cei	t	
Vehicle Class	LDV	//Passenger Car	ger Car Standard Level			Federal Tier 3 Bin 0			
Fuel	Elec	tricity	Test Procedure		CVS 75 and later (w/o can. load)				
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	СО						1		0
150,000 miles	CREE						1		0

Test Group	HTSLV00.0L2X Evaporative/Ref		ling Family		
	Gl	ossary			
Useful Life					
4	4,000 miles	120	120,000 miles		
50	50,000 miles	150	150,000 miles		
100	100,000 miles				
Emission Name					
HC-TOTAL	Total Hydrocarbon	METHANOL	CH3OH - Methanol		
CO	Carbon Monoxide	N2O	Nitrous Oxide		
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams		
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours		
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours		
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours		
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)		
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage		
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide		
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide		
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide		
NMOG	Non-methane organic gas (California)	CO2 BAG 4	Bag 4 Carbon Dioxide		
НСНО	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides		
Н3С2НО	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides		
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating		
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating		
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating		
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions		
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions		
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only		
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only		
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only		
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)		
НС	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)		
METHANE	CH4 - Methane	CO2-COMB	Combined Carbon Dioxide for HD 2b/3 Vehicles Only		
Certification Region					
CA	California + CAA Section 177 states	FA	Federal		
Exhaust Emission Star	ndard Level				
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340		
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250		
В3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200		
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170		
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150		

Page 30 of 32 CSI Submission/Revision Date: 03/07/2017 09:47:09 PM

Test Group	HTSLV00.0L2X	Evaporative/Refueling Family		
B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630	
B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570	
B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400	
B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270	
B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230	
B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200	
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160	
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125	
L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110	
L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85	
U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover	
S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70	
ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50	
OT	Other	T3B30	Federal Tier 3 Bin 30	
T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20	
PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0	
L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395	
L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340	
L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250	
L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200	
L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170	
L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150	
L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0	
L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630	
L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570	
L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400	
L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270	
L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230	
L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200	
L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0	
Transmission Type	Code			
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual	
A	Automatic	OT	Other	
AM	Automated Manual	SA	Semi-Automatic	
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)	
Drive System Code				
4	4-Wheel Drive	P	Part-time 4-Wheel Drive	
F	2-Wheel Drive, Front	A	All Wheel Drive	
R	2-Wheel Drive, Rear			
L	Do no 24 of 22 COL Cub mission / D		7/0047 00-47-00 DM	

Test Group	HTSLV00.0L2X	Evaporative/Re	Evaporative/Refueling Family	
Additional Terms a	nd Acronyms			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer	
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery	
DF	Deterioration Factor	SIL	Shift Indicator Light	
Evap	Evaporation, Evaporative	Trans	Transmission	